CLAIMS

1. A waveform generation method comprising steps of:

for a desired target waveform output from a D/A converter, determining preliminarily an output value and an output timing of the D/A converter so that a voltage variation amount of the target waveform may be almost constant; and sequentially

generating the output value from the D/A converter, based on the determined output value and output timing of the D/A converter.

2. The waveform generation method according to claim 1, further comprising a step of:

interpolating between the output values of the D/A converter while a low pass filter is provided on an output side of the D/A converter.

3. A program for generating a waveform employing data created in accordance with a procedure of steps (a) to (f) and stored in a time memory and a waveform memory, wherein

the waveform is output in accordance with a waveform output processing procedure of steps (g) to (k);

(a) a step of approximating a target waveform v with a plurality of functions f1(t), f2(t), f3(t), ..;

(b) a step of calculating inverse functions of the plurality of functions f1(t), f2(t), f3(t), ..;

(c) a step of acquiring times t1, t2, t3, ..tN corresponding to output set-up voltage values V1, V2, V3, ..,

Vn of a D/A converter;

(d) a step of replacing the times t1, t2, t3, ..tN with time differences T1, T2, T3, ..TN between a current time and a previous time;

(e) a step of storing the time differences T1, T2, T3, ..TN in the time memory, wherein an initial value T0 of the time difference is zero and stored at an address value 0000;

(f) a step of storing the output set-up voltage values V1, V2, V3, .. in the waveform memory, wherein an initial value V0 of the waveform memory is stored at an address value 0000;

(g) a step of substituting an initial value of zero for a loop variable n;

(h) a step of reading a n-th time data Tn from the time memory and setting the time data Tn in a predetermined timer;

(i) a step of initiating and counting the timer;

(j) a step of accepting a count end notification from the timer, reading a n-th waveform data from the waveform memory, and setting the output set-up voltage value Vn in the D/A converter; and

(k) a step of determining a completion status of a waveform output process by confirming the loop variable n, and repeating a series of processing from step (h) to step (j) by counting up the loop variable n until completion.

4. A waveform generation circuit comprising:

a time memory for storing an output time interval of

waveform output values preset discretely based on a desired target waveform;

a timing controller for setting up a timing at which a D/A conversion of the waveform output values is performed, based on the output time interval stored in the time memory; and

a D/A converter for performing the D/A conversion of the waveform output values according to the timing set up in the timing controller.

5. The waveform generation circuit according to claim 4, further comprising:

a low pass filter for interpolating between output values of the D/A converter.

6. A radar apparatus comprising:

the waveform generation circuit according to claim 4 or 5 as a modulation circuit for modulating the oscillation frequency of an oscillator.